

I CLAIM:

1. A policy server comprising:
 - a. a pre-computation module grouping a plurality of policies having the same triggering condition and policy decision into a policy equivalency class;
 - b. a scheduler initiating policy evaluation based on received events satisfying passive conditions determining policy-managed entity memberships with respect to the policy equivalency class;
 - c. a triggering module monitoring communication network events satisfying the triggering condition, the triggering module initiating policy evaluation subsequent to the triggering condition being satisfied; and
 - d. a policy decision distribution mechanism issuing the policy decision to the policy equivalency class member policy-managed entities for policy enforcement,

grouping the plurality of policies into the policy equivalency class, and associating policy-managed entities with the policy equivalency class, provides policy equivalency class restricted policy evaluation reducing policy evaluation overheads.
2. The policy server claimed in claim 1, the policy server being associated with a network management system providing support of one of policy-based network management, and policy-based service provisioning.
3. The policy server claimed in claim 1, the policy server being further associated with a policy repository for storing the plurality of policies and the policy decision.

4. The policy server claimed in claim 3, wherein the policy repository comprises one of a database and a directory.
5. The policy server claimed in claim 3, wherein the policy repository further comprises a policy condition management interface providing interaction with one of the policies and policy conditions.
6. The policy server claimed in claim 1, the policy server being further associated with a policy equivalency class repository for storing policy equivalency class specifications.
7. The policy server claimed in claim 1, further comprising a policy condition management interface providing interaction with one of the policies and policy conditions.
8. A method of policy evaluation comprising steps of:
 - a. grouping a plurality of policies having the same triggering condition and policy decision into a policy equivalency class;
 - b. determining policy-managed entity membership with respect to the policy equivalency class;
 - c. receiving an event satisfying the triggering condition;
 - d. based on satisfying the triggering condition, performing policy evaluation of the group of policies of the policy equivalency class; and
 - e. distributing the policy decision for policy enforcement to policy-managed entity members of the policy equivalency class,grouping the plurality of policies into the policy equivalency class, and associating policy-managed entities with the policy equivalency class, provides policy equivalency class restricted policy evaluation reducing policy evaluation overheads.

9. The method as claimed in claim 8, wherein performing policy evaluation based on satisfying the triggering condition, the method further comprises a step of: changing a corresponding policy-managed entity's membership with respect to the policy equivalence class.
10. The method as claimed in claim 8, the method further comprising a step of: monitoring events in a communications network.
11. The method as claimed in claim 8, wherein a policy has a passive condition, the method further comprising steps of:
 - a. receiving an event satisfying the passive condition; and
 - b. scheduling policy evaluation with respect to the passive condition.
12. The method as claimed in claim 11, wherein performing policy evaluation based on satisfying the passive condition, the method further comprises a step of: changing a corresponding policy-managed entity's membership with respect to the policy equivalence class.
13. The method as claimed in claim 11, scheduling policy evaluation with respect to the passive condition, the method further comprises a step of: prioritizing passive condition related policy evaluation based on a demand for one of a policy and the policy equivalency class.
14. The method as claimed in claim 13, further comprising a step of: determining a demand for the one of the policy and the policy equivalency class based on a previous utilization frequency thereof.
15. The method as claimed in claim 8, further comprising a step of: specifying a policy condition.
16. The method as claimed in claim 15, wherein specifying the policy condition, the method further comprises a step of: designating the policy condition as one of the triggering condition and a passive condition.

17. The method as claimed in claim 16, wherein specifying the triggering condition, the method further comprises a step of: specifying one of a time-of-day event, a quality-of-service event, a source available event, a source unavailable event, a broadcast start event, and an information flow available event to be monitored.
18. The method as claimed in claim 17, wherein specifying the triggering condition the method further comprises a step of: logically combining events.
19. The method as claimed in claim 16, wherein specifying the passive condition, the method further comprises a step of: specifying one of a prepaid status event, a policy-managed entity on-line event, a policy-managed entity off-line event, a policy-managed entity capability, and a policy-managed entity interest in a service.